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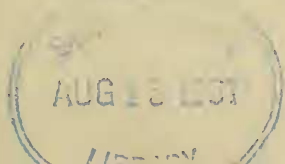
THE STATUS OF *HAGENOWELLA* CUSHMAN, 1933  
AND A NEW GENUS *HAGENOWINA*

BY ALFRED R. LOEBLICH, JR. AND HELEN TAPPAN

*California Research Corporation, La Habra, California;*  
*University of California at Los Angeles, California*

The genus *Hagenowella* was originally described by Cushman (1933, p. 21) as having a trochoid spire, with vertical radial internal partitions projecting from the outer wall and partially subdividing the chambers. The genus was monotypic, and the type species designated as *Valvulina gibbosa* d'Orbigny, 1840. Marie (1941, p. 41) noted that this description had been based on misidentified material as it was not conspecific with the *V. gibbosa* of d'Orbigny.

The original specimens of *Valvulina gibbosa* d'Orbigny, from the Craie Blanche of Saint-Germain, France (designated as type species of *Hagenowella* by Cushman) were restudied in Paris by Marie. He stated that the type slide contained two specimens, a composite of these being the basis for d'Orbigny's type figures. The small globular specimen, which was drawn by d'Orbigny for the general form of the test was stated by Marie to be doubtful, but possibly an *Ataxogyroidina* [= *Ataxophragmium*] or a *Globigerina elevata* d'Orbigny, 1840 [a species Marie transferred to the genus *Hagenowella*]. The other larger specimen Marie stated to be an *Arenobulimina* with abnormal final chamber, apparently the basis for the representation of the aperture, although modified, in d'Orbigny's figures. Marie stated that the French specimens did not have an apertural tooth and did not have internal partitions, as did the specimens figured and described by Cushman. Marie then stated that *Valvulina gibbosa* should be rejected as type species and proposed that *Globigerina elevata* d'Orbigny, 1840 be made the type of *Hageno-*



*wella*. Unfortunately, the type species cannot be changed by later workers, hence the type must remain *Valvulina gibbosa*. On the basis of the original specimens of the type species, *Hagenowella* Cushman, 1933 becomes a synonym of *Arenobulimina* Cushman, 1927.

The specimens figured by Cushman as *Hagenowella gibbosa* (1933, Pl. 1, Figs. 1-3) were not identified as to exact locality, but specimens were stated (Cushman, 1933, p. 21) to have been obtained from "the Senonian of the Island of Rügen, in the Craie Blanche of the Paris Basin, and from the Chalk of England." In a later publication (Cushman, 1937, Pl. 21, Figs. 1, 2), the same illustrations were used, and then stated to be from the Cretaceous of France. An examination of the types in the Cushman Collection by the writers showed this last statement to be in error, as the figured specimens (Cushman Coll. 21213) are labelled from Upper Cretaceous (Senonian), Island of Rügen, Germany. These internally partitioned forms thus are not conspecific with *Valvulina gibbosa*. The French species with simple interior is correctly referred to *Arenobulimina*, and the German one should be referred to *Valvulina quadribullata* von Hagenow (a species described from Rügen and erroneously regarded by Cushman as a synonym of *V. gibbosa* d'Orbigny).

As *Hagenowella* is a junior synonym of *Arenobulimina*, the species with internal partitions requires a new generic name.

Family Ataxophragmiidae Schwager, 1877

Subfamily Ataxophragmiinae Schwager, 1877

**Hagenowina** Loeblich and Tappan, new genus

*Hagenowella* Cushman, 1933, Amer. Jour. Sci., ser. 5, v. 26, p. 21 (part, including *Hagenowella gibbosa* (d'Orbigny) of Cushman, not *Valvulina gibbosa* d'Orbigny).

*Type species: Valvulina quadribullata* von Hagenow, 1842.

Test trochospiral, with three or more chambers per whorl; interior of chambers subdivided by partial radial partitions projecting inward from the outer wall as in *Ataxophragmoides*; aperture an interior marginal slit or loop with an indistinct tooth.

*Range:* Upper Cretaceous (U. Senonian or Maestrichtian).

*Remarks:* The present genus includes forms included by Cushman in *Hagenowella*, but does not include *Valvulina gibbosa* d'Orbigny, the type species of *Hagenowella*, which has been shown to have simple, non-subdivided chambers. The specimens referred to *Hagenowella gibbosa*

by Cushman (1933, Pl. 1, Figs. 1-3; 1937, Pl. 21, Figs. 1, 2) are in the U. S. National Museum (Cushman Coll. No. 21213) and are from the Upper Cretaceous (Upper Senonian), Island of Rügen, Germany. They should correctly be referred to *Valvulina quadribullata* von Hagenow = *Hagenowina quadribullata* (von Hagenow).

## SUMMARY

*Hagenowella* Cushman, 1933, was based on specimens misidentified as *Valvulina gibbosa* d'Orbigny, 1840. As *Valvulina gibbosa* has simple, nondivided chambers, *Hagenowella* is a junior synonym of *Arenobulimina*. *Valvulina quadribullata* von Hagenow includes the specimens with vertical internal partitions identified as *Valvulina gibbosa* by Cushman and is here made the type species for the new genus *Hagenowina*.

## LITERATURE CITED

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